



PERFORMANCE IMPROVEMENT IN ELITE CYCLISTS: A QUALITATIVE STUDY

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Abstract:

This study aims to measure the impact of external factors affecting the performances of cyclists on performance improvement. The case study pattern was used in the study as a qualitative research method. The sampling method is convenient sampling, a purposeful sampling technique. Sample group: Consisted of 6 athletes aged between 22 and 30 years who have at least 10 years of sports history and are actively engaged in professional sports. Data was collected via a half-structured interview form developed by the researcher. The data obtained by an audio recorder was first transcribed. Findings of the research were analyzed by descriptive and content analysis methods. As a result of the findings analyzed during the study, the external factors affecting the performance according to cyclists are assessed under the main theme of performance-increasing factors and sub-themes of views related to family factor, economical factors, friendship and social environment and trainer factor. Factors such as moral support of the family, field-related knowledge of the trainer and his/her relationship with the athlete, social environment, and climate, geographical structure and sports culture of the region, which are considered under the training location, are thought to increase performance, whereas, it was understood that performance may decrease due to economical reasons.

Keywords: cycling, external factors, qualitative

1. Introduction

Sports are a cultural, economic, social, intellectual, psychological, physical phenomenon that attracts global interest today. The popularity of sports, which affects the whole world, has created an economic environment and this led to constant improvement and

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competition. Improvement of total performance is of crucial importance in reaching the targeted goal in sports. (Kalkan N., 2017)

Although performance in physics is defined as the work done in unit time, sports performance definition is much more complex than that. Today, sports performance should be considered a product of physical and psychological factors affecting the athlete's ability to produce work and the ability to produce work, production quality and capacity of the athlete that are actualized in spite of all negative factors. (Bayraktar ve Kurtoğlu, 2009)

In other words, sports performance is defined as the whole of all efforts put forward for success as a required athletic task is being performed. (Bayraktar ve Kurtoğlu, 2009)

Primary ones are the factors that result due to external impacts instead of human body and structure, and therefore indirectly affect sports performance physically and psychologically. Some of these are temperature, climate, material, audience, social environment, friendship, family, all economic components, nutrition, past injuries, doping, ergogenic assistance, negative external statements, time difference, methods utilized to pass the leisure time, sexuality, role model determination, the incentive to be appreciated, training methods, training quality, cooling off, sleeping patterns and quality (Bayraktar et al, 2004). These factors are much more than the ones that originate from the athlete's body and they can be changed. (O. Eroğlu, R. Zileli 2015)

Elite cycling can be defined as a sports branch that requires special endurance. An athlete rides approximately 30.000-35.000 kilometers each year during trainings and special and official competitions. In Tour de France, cyclists cover 3500 kilometers over 21 days. Training intensity of a sport with such characteristics is also very important. Knowing the attributes of athletes is one of the important criteria for obtaining new information with regards to improvement of training and competition performance.

Elite cyclists are characterized by high aerobic power by virtue of both intense training and their innate skills (Şenel et al, 1997).

Cycling as a sports activity, in addition to the convenience it adds to daily life, serves as means to increase the quality of life. Cycling culture is very well established in many countries. Many countries such as France, Germany and Italy are prominent with their achievements in cycling.

Cycling is not limited to material development; starting age, training and athlete profiles constantly change. Especially with the modern training methods, time and distance based records, which were once considered impossible for a human to achieve, keep on pushing the limits.

Cycling races started to draw interest and number of licensed athletes is increasing around the world and in our country. Although watching-pleasure is not high, cycling is highly enjoyed by athletes and became very popular with new training and loading methods. In our country, cycling literature has very limited number of resources and studies. Cycling related studies must increase in order for road cycling to earn the attention it deserves in our country and to shed light to future studies.

High performance and success in sports can be achieved not only through physical, technical and tactical preparation, but also with psychological preparation and organization of social life. Sports performance is a whole and harmony must be found in its entirety (Konter, 2006).

Therefore, evaluation of external factors affecting the performance of cyclists and prevention of the factors that may have negative impacts on the athletes gain great importance in terms of athlete performance.

Training has many aspects that affect the performance of athletes. Many factors affect performance in cycling as well. Especially having high levels of basic motor functions will render endurance, the most characteristic feature of cycling, utilizable. Different types of bicycles are used for cycling races and time and distance concepts may have different meanings. Therefore, bicycle and the type of race change the exclusive structure of the training. While endurance and power are the determining in some races, others may require speed and skill. However, road cycling is very different. Road cycling has the highest endurance requirement due to the significant distances covered during races and the necessity to finish the course in a shorter amount of time than others. The total distance covered in Tour de France, consisted of 21 stages and 2 resting days, is approximately 3535 kilometers, and even completing such distance during one of the hottest month of the year, July, is an achievement in itself.

Factors affecting the performance can be classified as internal and external factors. Internal factors are generally present in individuals, are partially inherited, can be differentiated with small changes over time, and have limited or no possibility for external impact.

Age, sex, anatomic structure, genetic intellect, condition of the locomotor system, allergy, neuromuscular transmission rate, and cardiovascular structure can be given as internal factors.

External factors originate outside of the human body and structure, and therefore indirectly affect the sports performance through physical and psychological component. Making positive changes to external factors to improve sports performance would lead to easier and more effective results. (Bayraktar B, Kurtoğlu M, 2009)

2. Method

This research attempts to determine the external factors affecting the performance, according to the views of cyclists, by using case study method as a qualitative research technique. Interviewee group is consisted of professional athletes aged between 22 and 30 with at least 10 years of sports history. Convenient sampling, a purposeful sampling technique, is used for sample selection. Personal information of 6 cyclists that form the study group is given in Table 1 and Table 2.

2.1 Background Information of Interviewees

Interviewees are consisted of professional athletes aged between 22 and 30 with at least 10 years of sports history. Sample group was selected among athletes who have the best competition rankings in Turkey. All athletes have national and international rankings.

Table 1: Information on demographic characteristics of study attendants

Individual No	Sex	Age	Marital Status	Educational Background	University Department
K1	Male	22	Single	Undergraduate	School of Physical Education and Sports
K2	Male	23	Single	Undergraduate	School of Physical Education and Sports
K3	Male	28	Married	Undergraduate	School of Physical Education and Sports
K4	Male	31	Single	Undergraduate	School of Physical Education and Sports
K5	Male	24	Single	Undergraduate	School of Physical Education and Sports
K6	Male	24	Single	Undergraduate	School of Physical Education and Sports

Table 2: Information on background sports branch of the attendants

Individual No	Sports History	National Athlete	Achievements
K1	10	7	Rankings in national and international competitions
K2	12	6	Rankings in national and international competitions
K3	15	10	Rankings in national and international competitions (Olympic athlete)
K4	17	9	Rankings in national and international competitions
K5	12	7	Rankings in national and international competitions (Olympic athlete)
K6	11	6	Rankings in national and international competitions

2.2 Data Collection and Preparation of Interview Form

In the study, “interview” approach was used as the data collection method, and “interview form method” was used for this method.

Interviews conducted during the study were held in quiet and convenient environments in line with the requests of the attendants. All interviews took place in respective sports clubs of the athletes.

Face-to-face interviews in this study were conducted with athletes aged between 22 and 30 with at least 10 years of professional sports involvement. Interviews were recorded with an audio recorder. Obtained data was transcribed into writing and raw data was coded by 2 experts of the field. The data was analyzed using Nvivo 11 software.

2.3 Interview Question

1) Which external factors you consider as important in terms of performance improvement?

2.4 Data Analysis

In our study, purposeful sampling method was used to determine the external factors that affect the sports performance based on the perspective of professional cyclists and to better explain the events and cases. Convenience sampling was used to add swiftness and practicality to our study. Interview method (semi-structured) was used in the study. Appointments were made in advance for the interviews and date and time were specified. Attendants were consulted for their information at specific times for minimum of 35 minutes and maximum of 45 minutes. Interviews were conducted under convenient conditions and environments, in attendants' respective institutions. Interviews were recorded with an audio recorder. Records were transcribed on computer. Athletes were interviewed separately and same questions were asked. Short notes were also taken in addition to the audio recorder during interviews and those were evaluated at the time of analysis.

For comprehensible analysis of data, reaching conclusions by examining the cause and effect relations and interpretation of results, "descriptive analysis" was used as a qualitative analysis method. Obtained data was transcribed into writing and raw data was coded by 2 experts of the field. The data was analyzed using Nvivo 11 software.

Purpose of the Study: Evaluation of external factors that affect the performance of athletes.

Importance of the Study: Evaluation of external factors that affect the achievement levels of cyclists and explaining the effects of those factors on performance to the cyclists.

Sample Group: Consisted of athletes aged between 22 and 30 years who have at least 10 years of cycling history and are actively engaged in professional sports.

Validity and Reliability; During the study, researcher, if deems necessary, may resort to new strategies, add new questions to the interview, conduct new interviews that were not specified previously, use different data collection methods to verify the collected data. And all these characteristics enable the researcher to be sensitive for internal validity and take additional precautions if needed (Yıldırım and Şimşek, 2005).

Internal validity; this process presents the ability of the paths followed by the researcher to reach the conclusions of the study. Attention was paid for consistency and meaningfulness of the results. Integrity of the findings was handled with care. In the research, findings were checked by the researcher with audio recorder and short notes were taken during the interviews.

External Validity: The subjects observed for external validity during the research process: the researcher clearly defined the methods and stages of the research and explicitly mentioned the collection, coding and interpretation of data.

Reliability; Variability and complex structure of human behaviors make it difficult to repeat a research on human behavior in the exact same way, however, there are some precautions with regards to reliability in qualitative researches. The researcher's clarification of his/her position in the research process, the identification of the individuals who are the data sources in the research, the identification of the social

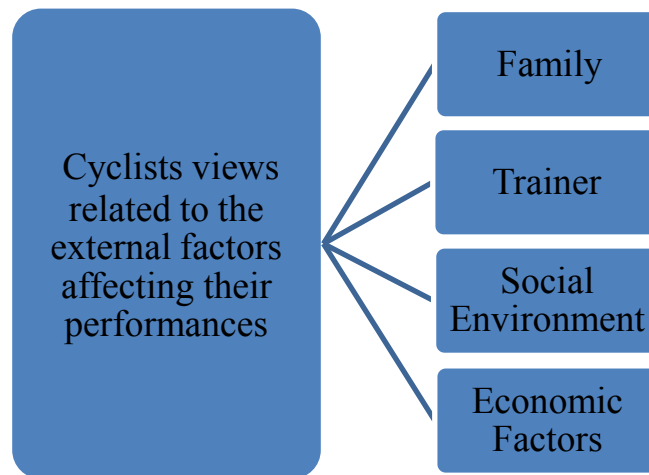
events and processes during the research, the identification of the conceptual framework and assumptions used in the analysis of the data obtained and detailed explanation of data collection and analysis methods (Yıldırım and Şimşek, 2008).

In the research, questions asked to interviews were attempted to be explained as clearly as possible. Methods and stages used for the research were stated. Data obtained within the research are kept to be evaluated as needed. Interviewed individuals are defined with code K. The coding was conducted by two expert researchers.

3. Results

The data obtained in the study was gathered under the main theme of factors affecting the athlete performance.

Interviewees formed the following sub-themes under the main theme of external factors affecting the performance: Family, Trainer, Social Environment and Economical Factors.



Family: Majority of the athletes mentioned the positive impact of family factor on their training and competition performances. The general public opinion that sports negatively impact academic success and cause injuries is the major factor that leads families to have negative attitudes for the involvement of their children in physical education and sports activities.

Trainer: In our study, trainers were particularly emphasized by the athletes among the factors affecting their performances. Athletes stated that, in addition to being a difficult sport, they see their trainers more than their family members during 4-hour long daily training sessions, that their trainers know them very well and that they have important contributions on their performances by establishing good relations.

Economic Factors: Athletes generally stated that their performances increased when they are financially comfortable. They highlighted that sports must be conducted without future anxiety, that when financial expectations are not met the concept of professionalism was not understood in the same way as in popular sports, and that developing sports must be supported more in our country.

Social Environment: Most of the athletes did address the social environment factor and stated that being in a social environment helped them to move away from the anxiety and stress of trainings and competitions and to let off steam.

4. Discussion and Conclusion

In sports environment, relation between athlete and trainer is of great importance in terms of psychosocial and physical development of athletes (Jowett and Cockerill, 2003). Trainer-athlete relations developed in environments with positive communication processes and positive relations increase motivation, satisfaction of the athletes and provide a suitable environment for them to improve their skills. Other studies suggest that trainer-athlete relation is highly necessary for the successes, development, self-respect, pleasure and satisfaction achieved by the athletes in their careers (Atasü et al. 2012).

In the basic category of economic reasons “inability to earn financial gains” is a prominent cause. Especially since mostly male attendants stated that they retired from sports due to such reason can be explained with a cost-benefit evaluation. However, some studies report that “inability to earn financial gains” was an infrequent factor in retirement from sports. (Pehlivan Z., 2013)

Today, sports and economy complete each other and they are indispensable aspects of each other. All athletes compete for the economic, social prestige advantages of the sports (Biçer, 1994). Economic development levels of societies increase people’s tendency for sports and enable their continuation (Demirbolat, 1988). In this context, social environment and economic structure are the two important factors that determine people’s demands for sports (Kılıçgil, 1998).

Today, the role of sports as a profession and the development of performance levels have become important factors in sociological interactions the athletes with their environments (Açıkada and Ergen, 1990). One of the important factors affecting the performances of athletes is social environment. Social environment is consisted of and affected by family, inner circle, school-work environment and social mass communication. (Kılıçgil, 1998)

High performance and success in sports can be achieved not only through physical, technical and tactical preparation, but also with psychological preparation and organization of social life. Sports performance is a whole and harmony must be found in its entirety (Konter, 2006) and similarly, based on the data we’ve obtained, athletes stated that they felt better when they were supported by the social environment and their friends and this positively contributed to their performances.

In conclusion; in light of the data, there are several factors that affect sports performance and these can have negative or positive impacts on athletes. However, external factors that could hinder sports performance should be known and precautions must be taken in advance.

Athletes mentioned that they cannot advance if they are not financially supported and that they would be forced to retire from sports in a very short amount of

time. Just in 2017, 12 professional athletes retired from sports due to economic reasons. The fact that there are only 12.000 amateur and professional male cyclist in our country clearly reveals the case.

Factors such as moral support of the family, trainer, social environment, and climate, geographical structure and sports culture of the region, which are considered under the training location, are thought to increase performance, whereas, it was understood that performance may decrease due to economic reasons.

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